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SCIENTIFIC JOURNALS AND ARTICLES

THE December number (volume 17, number 3) of the *Bulletin of the American Mathematical Society* contains the following articles: Report of the September meeting of the San Francisco Section, by C. A. Noble; "A new proof of the theorem of Weierstrass concerning the factorization of a power series," by W. D. MacMillan; Review of Kowalewski's *Determinantentheorie*, by Maxime Bôcher; Review of Wright's *Invariants of Quadratic Differential Forms*, by L. P. Eisenhart; Review of Volume 4 of Sturm's *Geometrische Verwandtschaften*, by Virgil Snyder; "Notes"; "New Publications."

The January number of the *Bulletin* contains: Report of the October meeting of the Society, by F. N. Cole; Report of the Königsberg meeting of the *Deutsche Mathematiker-Vereinigung*; "On the saddlepoint in the theory of maxima and minima and in the calculus of variations," by R. G. D. Richardson; "Note on identities connecting certain integrals," by Louis Ingold; Review of Poincaré's *Göttingen Lectures*, by G. D. Birkhoff; Review of Lorentz's *Theory of Electrons* and of Wien's *Elektronen*, by E. B. Wilson; "Shorter notices": Lilienthal's *Differentialgeometrie*, Volume 1, by E. J. Wilczynski; Boehm's *Elliptische Funktionen*, Part 1, by L. W. Dowling; Dingeldey's *Sammlung von Aufgaben zur Anwendung der Differential- und Integralrechnung*, by E. W. Ponzer; Murray's *Calculus*, by W. B. Carver; Crabtree's *Theory of Spinning Tops and Gyroscopic Motion*, by E. W. Brown; Loney's *Dynamics of a Particle and of Rigid Bodies*, by W. R. Longley; "Notes"; "New Publications."

The *Journal of Experimental Medicine* begins its thirteenth volume with the announcement that it will hereafter be issued once a

month instead of once in two months as heretofore. Two volumes will thus be issued each year. No change is made in the price of subscription. Dr. Benjamin T. Terry takes the place of Dr. Eugene L. Opie as the associate of Dr. Simon Flexner in the editorial control of the journal.

SPECIAL ARTICLES

VISUAL SENSATIONS FROM THE ALTERNATING MAGNETIC FIELD¹

THE experiments reported by S. P. Thompson in the *Proceedings of the Royal Society*, B, 82 (557), pp. 396 ff., are of great importance, especially in view of the negative results which have been obtained in the several earlier attempts to arouse sensations by subjecting the head to the influence of a magnetic field. Previous experimenters seem, however, to have used direct current, while Thompson used alternating current.

Thompson obtained his magnetic field from a coil of 32 turns of stranded copper conductor of .2 square inch equivalent cross section, the coil having an internal diameter of nine inches and a length of eight inches. This coil was supplied with 50-cycle alternating current, the maximal amperage being 180. The subject's head was inserted in the coil, and under these conditions Thompson and several others were able to obtain flickering light sensations which were especially conspicuous in the peripheral part of the visual field. The flicker was noticed even when the eyes were open. Certain subjects reported sensations of taste also.

It occurred to me on reading Thompson's report that the visual phenomenon might well be due to idio-retinal light, under the suggestion of the hum of the coil due to the alternating current, and as Thompson mentions no specific checks or precautions in his procedure, it seemed worth while to repeat the ex-

¹I am indebted to the persons mentioned in this paper for their interest and participation in the experiments, and especially to Professor J. B. Whitehead and Mr. Henry C. Louis, without whose cooperation the experiments would have been impossible.